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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/888,663 | 06/25/2001 | Michael H. Perrott | 026-0012 | 8862 |

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| EXAMINER |
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GLENN, KIMBERLY E

| ART UNIT | PAPER NUMBER |
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2817

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | | |
|-----------------|---------------------|----------|
| Application No. | PERROTT, MICHAEL H. | |
| 09/888,663 | Examiner | Art Unit |
| | Kimberly E Glenn | 2817 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 21 November 2002.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-35 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) 23-35 is/are allowed.

6) Claim(s) 1-3, 15, 16 and 18-22 is/are rejected.

7) Claim(s) 4-14 and 17 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) Interview Summary (PTO-413) Paper No(s) _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

DETAILED ACTION***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3,15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al US Pat. 5,754,080.

Chen et al a circuit comprising means for detecting (Phase detector) whether transitions of the input data stream fall into a predetermined portion or phase zone of a sample clock period of a sample clock utilized to sample the input data stream; and means for evaluating (phase detector) whether a phase-locked loop (PLL) has acquired the timing of the input data stream according to occurrence of transitions of the input data stream in the predetermined portion of the sample clock period. Chen also disclose determining over a plurality of time periods, each of the time periods including an increasing number of evaluation intervals, whether the PLL is locked to the timing of the input data stream according to a number of evaluation intervals having one or more transitions in the predetermined portion of the sample clock period. The sample clock is a clock recovered from the input data stream. The predetermined portion of the clock period is adjacent to a clock edge used to sample the input data stream.

(See figure 1, 4, 5 and 6 and column 3 line 36 through column 6 line 60) The way the Phase locked loop is designed will determine the predetermined portion of the clock. The PLL is designed to recognize either the rising edge or falling edge of the clock and input data. Once the

rising edge or falling edge have been detected, the PLL will then determine whether the input data is in phase with clock signal generated by the VCO.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al US Pat. 5,754,080 in view of Wu et al US Pat 5,486,794

The primary reference, Chen et al teach a means for detecting whether transitions of the input data stream fall into a predetermined portion of a sample clock period of a sample clock utilized to sample the input data stream; and means for evaluating whether a phase-locked loop (PLL) has acquired the timing of the input data stream according to occurrence of transitions of the input data stream in the predetermined portion of the sample clock period.

Thus Chen et al is shown to teach all the limitations of the claim with the exceptions of a variable oscillator wherein varying the impedance of the oscillator when lock is not achieved changes the output frequency.

Wu et al shows a variable oscillator wherein the output frequency of the oscillator is changed by varying the impedance of the oscillator. A control voltage is applied to the variable impedance circuit. (1) (See figure 1 and column 3 line 42 through column 4 line 63)

One skilled in the art, at the time of the invention would have found it obvious to replace the general oscillator of Chen et al with the variable oscillator of Wu et al since Wu et al shows

that it is well known and desirable in the art to have a variable oscillator which variable of a broad range of frequency and which has a relatively low phase noise.

Allowable Subject Matter

Claims 23-35 are allowed.

Claims 4-14 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: With regards to claim 4, 17 and 23, the prior art of record does not disclose or fairly teach a counter circuit coupled to the phase zone detect circuit in order to supply an indication of a number of evaluation intervals in which at least one bit error occurs.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen US Pat. 6,041,090, Anderson US Pat. 5,987,085, Carickhoff US Pat. 4,456,890 and Sorensen US Pat. 4,464,771.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E Glenn whose telephone number is (703) 306-5942. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7724 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Kimberly E Glenn
Examiner
Art Unit 2817

keg
February 9, 2003



Robert Pascal
Supervisory Patent Examiner
Technology Center 2800